



SEQUENCE LISTING

<110> SUN, WEIMIN
HANTASH, FERAS

<120> METHODS AND COMPOSITIONS FOR THE DETECTION OF
MUCOLIPIDOSIS IV MUTATIONS

<130> 034827-2301

<140> 10/754,446

<141> 2004-01-09

<160> 8

<170> PatentIn Ver. 3.3

<210> 1

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 1

agcgggccgg actca

15

<210> 2

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 2

taaccaccat cggatcaatg tc

22

<210> 3

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 3

cttgctctgt tgcccaggct

20

<210> 4

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 4

ctcaccgtgc tggaagacac t

21

<210> 5
 <211> 16
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 5
 tctgcccaca gtacct

16

<210> 6
 <211> 15
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 6
 ctgcccacgg tacct

15

<210> 7
 <211> 16
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 7
 agaccaggc ccacat

16

<210> 8
 <211> 13270
 <212> DNA
 <213> Homo sapiens

<400> 8
 tctcacttac cccttgctct tcaaagccca tacagtaggt atacaagtgg acaaaaaaag 60
 ttgctcattt atgcaatcaa caaacatctc tggattgctg gggctctcagc agggaacaag 120
 ataaatatgg cctcgacctg catggagctc atagatacta aattcagaat acttaaaaaa 180
 taattacggg gtatagtaca ttctaggaga agcataacaa gacttctgat ataaatggca 240
 ggcagctttc tcaatgaagg attttgtaat cccaataatc actaatttaa taatcagtac 300
 tgtttgccca gccttatgcg atagtttttg cattctctca tttaatcctc tcaacagccc 360
 cagtaggtag atgactttga atatcccat tttgcaaatg agaaaattga ggcacatttt 420
 tttttttttt ttttagacagt cttgctctgt tgcccaggct ggagtgcagt ggtgtgatca 480
 tagctcactg cagcctcgac ctcttgggct caagcgatcc tcccaccta gcctcccag 540
 tagctgggat tgccggtgca tgccaccgcc cactgcgctc agcttggagt tgaagggact 600
 ctggaagatg tagaagtggc attgtcagtg cctagattta aatcccaatt gccctccagg 660
 gtccaaattc ttaaccatta cgctccaggg caaaagtatg caaaggctct ggggctatag 720
 aaagatgagc tttggatgga ggtaggagcc agatcagagg gccctgatag acgagagtgg 780
 ggactctgcc tgtcattaca gagcaatggg aagccgaggg caggttctcg caggaaggat 840
 aggaattatt ctttgaagat gcttgtggct gctgggtaga gagtggagt gagggaggct 900
 gagatcgggg aggaggttgc tgcaaagatc caggccagga atgttggag actctgggct 960
 ggggggccatg ggggtgggat aagtgtttct atttgataca taattaggaa atcgtgtttg 1020
 ctgaagatgc gcaggagaag ggtaaaagga gtttctggga gaaagaggaa gacagcgttg 1080
 agatagtagg cagggtcatc accaggcacc aaggaggata aggggtcaag ctctggacat 1140
 ggaagtcaca agcctggcac cggattcggg gcatggccgg gagccagggc agagctcgtc 1200

gttgccaaac	tcagagtcag	cccatccccc	gccacccaga	gcgcgctcggc	gctaggacct	1260
agcgactgcc	ttcgacccag	agggcgccgg	cagaggcacg	catgcgcgct	gttccggcag	1320
gggttgctgt	ggcgagggg	gcgggaccag	aggcggtcac	gtgaggggct	ctgggttacc	1380
gggtcacgtg	accgaggcac	agatcagctg	atgccggagg	gtttgaagcc	gcgccgcgag	1440
ggagcgaggt	cgcagtgaca	gcggcgggcg	atcggaccca	ggctgccccg	ccgtacccgc	1500
ctgcgtcccc	cgtccccgcc	ccagcatgac	agccccggcg	ggctccgcgcg	gctcaggtga	1560
gggcgcgggc	ggcaccgtgg	ggccccgaac	tcaggcgggc	gggctgtgtc	ttccacctgg	1620
ggcgcgggag	ctcctagtct	ctttttttct	aagctccagc	gctgactttt	cacggtggag	1680
aaaagggcag	acggctccta	gaacttgggc	ggcggttggg	caccagcctc	ttcaattctt	1740
cctcctgaac	ccaggctctg	ctgggttccc	aaactcaggc	agggatcgcg	ccgggcccgc	1800
agcttctccc	tctggggcgg	cgaggttctt	gggattccca	ctgggagcct	aggttccgat	1860
tgctcaactt	cgtctggaac	tcagacagcg	ggcaccagct	tctccaaccc	gcacgtgaga	1920
ctcccaggct	ttcccctctg	attccagggg	gcaaatgtct	agcttcccta	agctcaagcc	1980
tggagagctg	gagggattgc	ccccaggcga	ttaactcagt	tttagctttc	caaaccgctg	2040
gaagcgcagc	cttcttaaat	tcgggcttct	agccaattct	gatgccaccc	ctcctcgggg	2100
aggctggagg	aagacccctt	gtgttagctt	ccccttctgg	agctagctgg	ggacccctac	2160
ctgatagatg	tcccgggtgtc	ccagctagta	gggtctgggg	tgggttagct	gtaattctag	2220
ctctgtaagc	gggccctgcc	ctctggcttt	gtcgtaaaca	gccacagcag	catctcattg	2280
caaagggagg	ggccgggaac	ttgtccctct	ctgcaaggga	ggttctgaca	gtgcacacat	2340
ttatcctgac	tgctttgcta	ggcaggaggc	caggccctag	aaagcagcac	ggggccaggc	2400
cctagaaaag	acatccccc	gggggtgtga	caggagcagt	tttgggctac	tgtgactggt	2460
tttgactcca	gcagttgtctg	aaagcttaga	tctaaccatt	aggctggaaa	aaaataaaca	2520
gtgattagaa	cagcttgtgt	ttgtgaaga	ggtctttatc	tgctgtgtct	caactgaattc	2580
tcagagcagc	ttcaggatct	caacctcaag	gctcaggagg	aggggtggact	tttttttttt	2640
ttaataaact	tttttttgtt	gcccaggctg	tagtgacgtg	gcataatcct	agctcattgt	2700
aacatcgaac	tcctgggctc	aagtgatcct	cccaactcag	cctcccggtg	agatggggtc	2760
ccagctacta	actacgggca	tgagccgtca	cacctgacta	tttaaaaaaa	atgttttttt	2820
ttttagagaca	gggaggtctc	gctgtattac	ctaggctgga	tcctcccacc	ttggcctccc	2880
aaagccgttg	ggataacagg	catgagccac	tgagcccagc	caaggggtcg	ccttttttaa	2940
atttccactc	ttcagatgag	gagatggagg	ctcagggagg	tacctggagt	caacctactg	3000
taaagtggca	ggctctgggat	ttgatgctag	ggctgcatag	tttctaggag	ctgggtgctt	3060
tcagggagat	aaaatgagtc	tttagcgaat	gtgttccatt	attattactt	atgttgtcaa	3120
ttacctcttc	tccaggctct	tggtcttctg	gagtgctcagc	tgatgggcca	ggttataatg	3180
aaccagaggg	gtatcttttg	ggtatttgtc	cagacaaacc	tagaatacac	gctgagttct	3240
atgctcatgt	ctggaagctg	gagttgggag	aagcccagca	ggcttgaacg	cccagtgaaa	3300
agccagtggg	agcagttcat	tctctcccca	ctgatcaata	acgggaacat	tgatgaaatg	3360
ttctgacatt	caccatggac	cagccccctg	gatcaatgct	tcataagcat	ccagtcctta	3420
gcgttcccat	gagacatatt	attgccccat	ttcgcacagt	aggaaactga	ggctcagaga	3480
gctgggtgagc	aggaggggca	ggaatcagcc	caggccctgt	acctcccaaa	cccaaactca	3540
taacctctga	gcaggacggg	tgcatagata	cctacaatgt	cacaggtttt	ctgggtttct	3600
ttagacctct	cagagctctt	ccttggcagg	agcatgggga	catgaagata	gggcgtgtgc	3660
tgcttctctg	gttgaggaaa	ggggaaaagg	ggagttgccc	aggcctcacc	ccagtgcctt	3720
ctcctatttc	cacagagacc	gagcggcttc	tgacccccaa	ccccgggtat	gggaccaggg	3780
cggggccctc	accggccctc	ccgacacccc	cagaagaggga	agaccttcgc	cgctcgtctc	3840
aatacttttt	catgagtccc	tgcgacaagt	ttcgagccaa	gggcccgaag	ccctgcaagc	3900
tgatgctgca	agtggctcaag	atcctgggtg	tcacggtgca	ggtgaggcca	gccaagcagg	3960
ggccccagct	gaaggccacc	tgtggctgct	gtgtctcctg	aagagagtct	taaagcagca	4020
ctttggaagg	ccgaggccgg	tggatcgctt	gagggtggga	gttcaagacc	agtctggcca	4080
gcatggtgaa	accccatctc	tactaaaaat	acaaaaaaat	tagccgtgcg	tggtggcggg	4140
tgcttgaat	cccagctact	tggcaggctg	aggcaggaga	atcgcttgaa	ttgggaggcg	4200
gaggttgccg	tgagctgaaa	tcatgccact	gcactccagc	ctgggcaaca	gagcaagact	4260
gtctcaaaaa	aaaaaagaag	ccgactctga	ggctcagaga	ggttaggaga	cttgcccaaa	4320
gtcacacagc	aatagaacat	tgggagctgg	gatttgaacc	caggcagtct	gacaccatgt	4380
tgacccaatg	gctgcacaga	tagttctccc	tcccccatgc	cagaccctgt	gctgggctct	4440
gggaacccca	agatgaatca	gacccagcca	ctgccttaag	tgcttacttc	atgttttggg	4500
ctgacttttg	catgtcacca	tgccctctaat	tttccctctg	aaaagggacc	caattgtcca	4560
ggcatggttg	ctcatgccctg	taatgccagc	taattgggag	gctgagttgg	gtggatcatt	4620
tgaggccagg	agtttgagac	cagcctggcc	aacattggca	aaccccgctc	ctactaaaaa	4680
tacaaaaatt	agctgggttt	ggtggcaggt	acctgtaact	cagctactca	ggaggctgag	4740
acaggagaat	tgcttgaacc	caggggggtg	aggttgtagt	gagctgagat	cataccatgg	4800
cactccaact	tgggcaaacg	agtggagctc	tgcttcaaaa	aagaaaagaa	aagggaccca	4860
gtcatggtac	ttaccctgaa	agtttggttt	taacacagaa	tcggacatcc	agtaaacatt	4920
taatgaacgt	tagtccctgc	agtgaatag	atgagtcctc	accctgtgtt	gtacggggga	4980
ggacacagtg	gtggggcgtg	catggagctt	atgccaggag	gtgggggtgaa	attaatcaaa	5040
gcaaaagaa	gcacaagtga	aatccgtgtt	tgtggcccaa	gttagcaggg	ccctgcccc	5100
ccccagtgg	catctgcagg	gccctcctg	tcctcttcca	gggcctgtgc	cctgaggagg	5160
atacacccca	accccatctc	tagccatgct	aacctctact	accctctccc	cagctcatcc	5220

tgtttgggct	cagtaatcag	ctggctgtga	cattccggga	agagaacacc	atcgcccttc	5280
gacacctctt	cctgctgggc	tactcggacg	gagcggatga	caccttcgca	gcctacacgc	5340
gggagcagct	gtaccaggcc	atcttccatg	ctgtggacca	ggtgctgggtg	ggcgggcagg	5400
tgctggtggg	caggcaggtg	caggtgggctg	ggcaggtgca	ggtgggcggg	caggtgctgg	5460
tgggcgggca	ggtgcaggtg	ggtgggctgc	agagagcggg	ccggactcac	aggccctccc	5520
cttctctgcc	cacagtacct	ggcgttgccct	gacgtgtcac	tgggccggta	tgcgtatgtc	5580
cgtggtgggg	gtgacccttg	gaccaatggc	tcagggcttg	ctctctgcca	gcggtactac	5640
caccgaggcc	acgtggaccc	ggccaacgac	acatttgaca	ttgatccgat	ggtggttact	5700
ggtgagtggg	caggacgagg	cttactgttt	gggagcctga	gctgctggga	ttaaaatcaa	5760
cagctgtggc	tgggcacggg	ggctcacgcc	tataatacca	gcactttggg	aggctgagga	5820
ggaaggattg	cttgaggcca	gaagtttgag	accagcctgg	gccacgtagg	aagaccttgt	5880
ctctacgcac	aaacaaatta	gctgggcgtg	gtggcgtgcc	cctgtggtcc	cagctactca	5940
ggaggctgag	gcaggaggat	cgcttgagtc	cgggaagggtg	aggctgcagt	aagctatgac	6000
cacgctgctg	cactccaccc	tgggtgacag	agtgcagacc	tgtctcaaaa	aaaaaaaaaa	6060
aaaaaaaaaa	caagtatgct	tagtgtgagt	gtgactcttg	ccacgtagaa	agcaccagat	6120
gttatatttt	aatatggctc	attcagtaaa	acatccgcag	gcccagagag	tgccaggcct	6180
gtaggaatga	cccaaccctg	gggaagcaca	gggaagaagg	ccactgggga	ctctggggag	6240
accagcctgg	cctccccggc	cccctgaggc	ccttccctga	ctccctgtcc	ttagactgca	6300
tccaggtgga	tccccccgag	cgccccctc	cgccccccag	cgacgatctc	accctcttgg	6360
aaagcagctc	cagttacaag	aacctcacgc	tcaaattcca	caagtactgc	ctgctcactc	6420
gagggggggc	caggggtggg	gaggcagcac	actaggcact	ctcacccag	caactacttc	6480
cctaagggtg	ggacaggggc	ccccgcggcg	cgctgggtgc	tgctgggtga	gcacttcccc	6540
tgccagctgc	agagtcagca	cgtggcaggg	gacgctggca	cttggggccg	gaagggaccc	6600
gaagacgccc	ctgaccctca	cccgcagcctc	ctgcctaggc	tggccaatgt	caccatccac	6660
ttccggctga	agaccattaa	cctccagagc	ctcatcaata	atgagatccc	ggactgctat	6720
accttcagcg	tcctgggtgag	gccccccggg	aaccacaggg	gctcctgagt	tccagggcag	6780
ggacctggtc	agggagtgtc	ttgggagcac	tggccaaggg	caagcgtgcg	ggtgatgagg	6840
gagggagccc	ggggtctgtc	aggccacctg	tcatgtggac	cttggggctt	ggggctgcca	6900
aggtttactc	tgcccccaac	tggcccccac	agatcacgtt	tgacaacaaa	gcacacagtg	6960
ggcggatccc	catcagctcg	gagaccagg	cccacatcca	ggagtgtaa	cacccagtg	7020
tcttccagca	cggtgagccc	ctgagcccca	gaccagcact	gaccaggggc	cctggcctgt	7080
cctgggattc	cccaagcccc	agatcagcgc	tgcttggggg	ccgtgacctc	cccaggaatc	7140
cgctgagcct	cagatcagca	cagaccaggg	accccgtcct	gtgctgagat	cccccaagcc	7200
ccagaccagc	actgaccggg	gttcttgact	caccccaagc	aagccctgag	ccctactgacc	7260
aacccaaaac	agccgtgcag	ccccctagg	ctccagcctg	gcctggcacc	aatgctagcc	7320
tcccaaggct	ccatgccatc	cttggcccta	cccgtctgtc	cctccccgca	ggagacaaca	7380
gcttccggct	cctgtttgac	gtgggtggtca	tcctcacctg	ctccctgtcc	ttcctcctct	7440
gcgcccgtc	actccttcca	ggcttccctg	tgcagaacgt	gaggcttctg	cgctatgtgt	7500
gctggtgtcc	tccccgcctg	gccccggggc	gataaaagcc	agggctttga	gggtcctgtg	7560
cctgggtcagg	ccctcacccc	gcctgccttc	tgcaggagtt	tggtggggttc	atgtggcggc	7620
agcggggacg	ggtcatcagc	ctgtgggagc	ggctggaatt	tgtcaatggc	tggtacatcc	7680
tgctcgtcac	cagcgtatgt	ctcaccatct	cgggcaccat	catgaagatc	ggcatcgagg	7740
ccaaggtgcg	tcctgccaac	accctggggc	ccaggtccca	tccctgctgt	cagtgcctat	7800
ccggggccat	atcctcccc	aggcccccca	aaggaaaggc	tgggccagat	aggttgacgc	7860
agctcccacc	cgcagaactt	ggcgagctac	gacgtctgca	gcatacctct	gggcacctcg	7920
acgctgctgg	tgtgggtggg	cgtgatccgc	tacctgacct	tcttccacaa	ctacaatgtg	7980
agttttgcac	atgcagctgg	gccttccaca	tggttactcc	acaccctcca	aataaatccc	8040
tacacagca	gccctcacca	gccccggcca	atggcccctt	gcaagcctcc	tcctcctacc	8100
tgccccacac	agatatatct	gtcactgcac	ctgcgcgggg	ccccgggagc	ctgctccttt	8160
gtgcccaccc	agctgagtct	agccgtgcgt	tgccctcgga	ccccctcaga	cgtggccacg	8220
ccccctctag	gcacccactg	gctcccatga	ccacaccggc	tgtgccctcg	gcaaggcccc	8280
gccccctcca	acccccactg	ggtgcccaca	gctgacctga	gttgtggcca	caccttcaac	8340
gaggctccct	ctgccccaac	ccagatcctc	atcgccacac	tgcgggtggc	cctgcccagc	8400
gtcatgcgct	tctgctgctg	cgtggctgtc	atctacctgg	gctactgctt	ctgtggctgg	8460
atcgtgctgg	ggccctatca	tgtgaaggta	catctaacc	ctgatgtccc	tgacattgac	8520
cctgtgacct	tgtcattgac	actgtgaccc	ccagatgacc	ccttgggtgac	tgctgggagt	8580
ctgtccactg	tcccctgtgg	tccttgggtga	ccttgacact	gacctgtgc	cattatttgt	8640
gtcacagtgt	ttgatgacct	tatttcgacc	tgattacttc	ccctcctgct	ctatctaccc	8700
agaccctagg	tcggccctgt	ggccctgtca	ttgacctgtg	gtcccgcca	ttcacatggg	8760
acccagcctt	gggacctggc	cattcacata	gtgacccag	cctgggaccc	ggccattcac	8820
gtgggacccc	agcctgggtc	ccggccattc	acgtgggacc	ccagcctggg	acccggccat	8880
tcacaggggc	ccagcctggg	aaccgcacca	tcgactggtt	gaccgcagcc	cgggacccgg	8940
ccattcatgt	ggggccccag	ccaccagctc	ctagccattt	gcatgggacc	ccagcctgac	9000
cccagcccc	ggttcctggc	catgccttgg	ctccctctga	ccccgccgcc	cctctggcag	9060
ttccgctcac	tctccatggt	gtctgagtgc	ctgttctcgc	tcatcaatgg	ggacgacatg	9120
ttgtgacgt	tcggcccat	gcaggcgcag	cagggccgca	gcagcctggt	gtggctcttc	9180
tcccagctct	acctttactc	cttcatcagc	ctcttcatct	acatggtgct	cagcctcttc	9240

atcgcgctca	tcaccggcgc	ctacgacacc	atcaagggtca	gccgcatgca	cccagccctg	9300
agctcgggct	ctgggtgccc	tggagtctgc	catgaggggg	tcttggggac	accgcagggt	9360
gaacagagaa	gacccaggag	agaatatggg	agactctatg	aaacaaaaaa	gaggggtggt	9420
cagaactggg	gggcgcaggg	ggatgtcaag	gtgggcttgg	gccaggaggg	ggcctgagtc	9480
agtctttgcc	aacagggcaa	ccgagtcata	gagtttat	atattttgt	ttatttgaga	9540
cggagtcctg	ctctgtcacc	caggggtggag	tgcagtggtg	cgatcttgac	tcactgcaac	9600
ctccaccttc	cgggttcaag	caattctgtc	tcagcctcct	gagtagctgg	gactacaggc	9660
acacgccacc	acgtccagct	aatttttgta	tttttagtag	agatggcatt	tcaccgcatt	9720
ggtcaggctg	gtctcaaact	cctggcctca	ggagatctac	tgccttgccc	tcccaaatg	9780
ttgggattac	aggcgtgagc	caccacgccc	ggcctat	atattattat	taaagtattg	9840
ttctttat	tattagagac	aagggtctca	ctgtgttacc	caggctggtt	tcaaactcct	9900
gaggtcaagt	gattctccca	ctttggcctc	ccaaagtgt	gggattacag	gcgtaagcca	9960
ccacacccag	cctattatta	ttattttttt	ctgcaacctc	aatcttacc	tgtggcccag	10020
gctggagtgc	aatggcatga	tctcggctca	gattacttgc	caccttctga	gttgaagcga	10080
tccttgtgcc	tcagcctcct	gagtagctgg	tcaccacgtt	acgtgccacc	acacctggct	10140
aatttttgta	tttttactag	agatgggggt	gcaccaaggt	ggccaggctg	gtctcgaact	10200
cctgacctca	ggatgatccac	ctgccttggc	aatgaccttg	gctgggattt	caggcatgag	10260
ccactgaacc	cagctaagtc	atacagtttc	atgcctatgg	tcattgaccc	tgggacgttg	10320
ccattaacat	ggatgatcctc	agctggcccc	ctccctctga	cggacctcta	aaaacccaac	10380
cctgacccca	gccccagacc	atgcccccca	ctcgtctgtg	ccctgcccac	ggtagcttcc	10440
tttattttat	tatttttttt	gagacggagt	ctcgtctgtg	caccagggct	ggagtgcagt	10500
gggtgcaatct	cggctcactg	caacctctgc	ctcccggtt	caagcgattc	tcctgcctca	10560
gcctcctgag	tagctgggat	tataggcaca	cgccaccatg	cctggcta	ttttgtat	10620
ttagtagaga	tgggggttca	ccatgttgac	caggctggct	tcaaactcct	gacctgtgta	10680
tccgcccacc	tcaggctccc	aaagtgtctg	gattacgggc	gtgagccact	gtgcccggcc	10740
caggttagct	tctgagcagt	aaaactgggc	tgaacccagg	gctgtctgat	tccagaagcc	10800
gtgctcctaa	ccccctctgc	ctcagtttag	taggggtggc	gggaacagtg	gtttccctgc	10860
aagctgcaag	ggtcaggggga	cagagcagga	tgcggaagt	gcaggtagat	aggattcttt	10920
cagcagatat	atctaagggc	caagatctgt	gctgggttct	gggcatggag	gaaaatcagg	10980
tgtgcatgat	ccgtccaagg	cctgtgggca	aggatggcac	aggaacagag	atccccatgac	11040
caatgacct	cttctaagac	gtatgaaggga	agatgggaag	gttgacagag	gacccctgct	11100
ttagattggt	atgacaggag	atccaggaga	gcttctagaa	tgttctatcc	atcactatgc	11160
tctagcccta	tgcagctatt	taaattttga	ttttaattcc	ggctgggcac	ggtgactcac	11220
gcctgtaatc	ccagcccttt	gggaggccga	gggggggtgg	gggtggatca	cctgaggtta	11280
ggagttcgag	accagcctgg	ccaacatggc	aaaaccccat	ctctactaaa	aatacaaaaa	11340
attagcggac	gtgggtggcag	gcacctgtaa	tcccagctac	tccggaggct	gaggcagtag	11400
aattgcttga	acctgggacg	tagagggtgc	agtgaagcca	gatcaagcca	ctgcaactcca	11460
acgtgggcga	gagaccgaga	ctctgcttca	aagacaaaac	aacaattttt	taaaaatttt	11520
aattcaaatg	aagtacaatt	gcaaatttag	cctctgactt	gcaccatcct	gtatccagtg	11580
ctcaaaagcc	agtgtggctg	gtggctggca	tattggacag	catagatatt	gaatacttcc	11640
atcgcctcta	gactgaagag	atgggagccc	aggggcagtg	caccgagggg	aaggaatagc	11700
taaagcaaa	gtctagtagc	ctgaaaaaac	ttggagaaaa	gatggccctt	ccatgaggcc	11760
gagtgagagg	aaggaagcct	tggctgggac	cctggccacat	ccaatgtcac	cggcagatgg	11820
gtacaccccc	ttttcccat	gcatggattc	agctgtccca	cagacacatt	gactcaggcc	11880
cttggaaact	cttctgtctt	tgccttagca	cgtagacatc	acacacatgc	atccactcag	11940
gtgggcagtc	tcaggccctg	ctcccactgc	tgtgctcagc	gtgcatccag	ctcactcaat	12000
agatggtttc	tgagcatcga	ggatcatgtca	gccctggctc	taggtctgta	gggtgctggac	12060
ctacagcaga	aggcaaaagc	acagactggc	aaagacacag	cttgatatcca	ggttcagggg	12120
tcaggggaagg	tccctctgtg	caagcaaaac	agatatggct	gggtggagca	ggcccagcaa	12180
gtgcaaaagg	ccggaggtgg	gaagcgatgc	gctgagcctc	ggaggggagg	gcggacttca	12240
agggccttgg	aggttgggag	ccactttcag	ctgcaggcct	ccggcttctc	tccccagcat	12300
cccggcggcg	caggcgcaga	ggagagcgag	agcggctcgg	acatcgaca	gtgccaggac	12360
agccccacct	ccggcaagtt	ccgcccggcg	attcagattg	cctgcagcct	tctctgctgc	12420
tgcggaagg	tgcagtcctg	gggtctggc	ctctccctgc	gaggttacgg	aatggggaaa	12480
ggggagcgag	ccagagaaaa	ctgacgcccc	ttctccctgc	ttcttctctc	cagggacccc	12540
tcggaggagc	attcgtctgt	ggatgaattga	ttcgacctga	ctgccgttgg	accgtaggcc	12600
ctggactgca	gagaccctcg	ccccgaccc	cgtctattta	ttttaggggt	ttgtttttaa	12660
ggatcggctc	cctgtcgcgc	ccgaggaggg	ctcggacctt	tcgtgtcgga	cccttggggg	12720
cggggagact	gggtggggag	gggtgtgaa	aaaaggga	ataaatgtgt	cgtttttcat	12780
tttagcgagg	ggagcagtc	ttgcgttaag	cgggtgtgag	ccctttaa	cgcgccaca	12840
ctcagcatgg	cggcctcagt	cggccttcca	agcatggcgc	ggggaggagg	gggtgggagg	12900
tcgggaggga	ctgcggtgcg	actaggagt	ataatttaa	aggggccgcg	cctgcggagc	12960
cgggcggaac	gctagcgggt	ttggcgcgga	gtggaccctg	gctgcggccc	ctgggtgagt	13020
ctgggtttcc	gttagcctcg	caggggtgtc	cttcgaggg	tcgttagcga	gcctccgctt	13080
tcccacgatc	tgtcctccga	ttcttgttaa	ctctagactt	tctgatgttc	ccataccccc	13140
cacgtctcgg	caggtgttcc	cacaccgga	gccagctgtg	ccctgaggtg	gaagaggacc	13200
ggccacccca	gaattttcca	agtaacgact	cggagtcttc	gggattccta	tctcccggcc	13260

cccgaatttc

13270